d) K397Q;

e) D425A;

f) D425N;

g) D425E;

h) D425K;

i) F427A;

j) K397D + D425K double mutation;

k) K395D + K397D + D425K + D426K quadruple mutation;

l) K397D +D425K + F427A triple mutation;

B2

m) F427A + ΔD2L2 double mutation;

n) K397D + F427A +ΔD2L2 triple mutation;

o) K397D + D425K + F427A +ΔD2L2 quadruple mutation;

p) F427D;

q) F427K; and

(r) ΔD2L2.

Sub C1

B3

12. (Amended) A mutant B moiety of a pore-forming binary A-B toxin, wherein said mutant B moiety comprises a mutation that inhibits its pore-forming ability, and wherein said mutant B moiety inhibits the pore-forming ability of a naturally-occurring B moiety of said toxin, wherein said mutation is not the deletion of amino acids 302-325 of anthrax protective antigen (SEQ ID NO. 12).

Sub C1

B4

19. (Amended) The mutant B moiety of claim 12, having an amino acid sequence that is at least 80% identical to SEQ ID No.: 21 and that has an alteration selected from the group consisting of:

a) K397D + D425K double mutation;

~~b) K395D + K397D + D425K + D426K quadruple mutation;~~

c) D425K;

d) F427A;

e) K397D +D425K + F427A triple mutation;

f) F427A + ΔD2L2 double mutation;

g) K397D + F427A +ΔD2L2 triple mutation;

h) K397D + D425K + F427A +ΔD2L2 quadruple mutation;

i) F427D; and

j) F427K.

Add the following new claims 28-38.

29 ~~28~~. (New) The B moiety of claim 2, having an amino acid sequence that is at least 80% identical to SEQ ID No.: 21.

30 ~~29~~. (New) The mutant B moiety of claim 19, comprising a deletion of amino acids 302-325 of the D2L2 loop.

31 ~~30~~. (New) The mutant B moiety of claim 1, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

32 ~~31~~. (New) The mutant B moiety of Claim 11, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

33 ~~32~~. (New) A vaccine composition comprising a mutant B moiety of a pore-forming binary A-B toxin or a fragment thereof in a pharmaceutically acceptable carrier, wherein said mutant B moiety comprises a mutation that inhibits its pore-forming ability, and wherein said mutant B moiety inhibits the pore-forming ability of a naturally-occurring B moiety of said toxin.

34 ~~33~~. (New) The vaccine of claim 6, wherein said mutation is in the PA63 domain of said B moiety ~~if said B moiety is anthrax protective antigen.~~